

Region 8 Draft
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

FIRST CLASS MAIL

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RE: United States v. BP Exploration & Oil Co. - Civil Action No: 2:96 CV 095 RL
Acid Gas Flaring Incident, on July 12, 2004, at the Mandan Refinery, Mandan,
North Dakota

Dear Sirs:

The United States Environmental Protection Agency (EPA) received the reports, dated August 11, 2004 and September 23, 2004, detailing the root cause failure analysis for the July 12, 2004 acid gas flaring incident that occurred at the Tesoro Petroleum Companies, Inc. (Tesoro) refinery located in Mandan, North Dakota. Based on the information submitted in the reports, EPA has determined that the incident was not a malfunction, but rather the incident resulted from a failure of Tesoro to operate and maintain equipment in a manner consistent with good engineering practice. Therefore, EPA has assessed penalties of \$750 for the July 12, 2004 acid gas flaring incident.

Tesoro reported that the July 12, 2004 acid gas flaring incident lasted for 1 hour and 37 minutes and resulted in the release of 1.5 tons of sulfur dioxide (SO₂) to the atmosphere. The sulfur recovery unit (SRU) shut down when the uninterrupted power supply (UPS-2), which became overloaded, switched to its backup source, the 480 V South System. Unfortunately, the 480V South System was off-line due to a breaker problem that occurred the previous afternoon as a result of a ground fault.

The overload of the UPS resulted when all four of the dampers in the boilers No. 2 and No. 3 opened fully to compensate for the cooling of the refinery's steam lines that occurred due

Not Malfunction
Automatic
Penalty
2261a2

to a sudden heavy rainfall. The UPS interpreted the overload from the simultaneous opening of the dampers as an electrical problem, and attempted unsuccessfully to switch to alternate power, the 480V South System. Because the switch resulted from an overload, the UPS is not programmed to switch to battery backup in case of a problem. Within a few seconds the primary power source was reestablished, but all indications suggest that the SRU incinerator shut down when power was re-established.

According to Tesoro, efforts to relight the incinerator pilot were hindered because the ignitor wire was shorting to the conduit. Tesoro dispatched an electrician to fix the problem; and lit the pilot shortly thereafter. The incinerator burned sweet fuel gas until it reached 100 degree Fahrenheit. At this time, acid gas was placed in the Claus Furnace.

As for corrective actions, Tesoro will implement the following:

- (1) review existing loads and determine how to better distribute them among the power sources (expected completion date 6/1/05);
- (2) repair the permissive and ensure that proper manuals are available (completed);
- (3) routine testing of ignitor on SRU incinerator to ensure its working condition and to prevent delays in re-lighting the pilot (completed);
- (4) review and update the power station training guides (completed); and
- (5) review set point of the limit on UPS per manufacturer's recommendations (completed).

EPA finds that the failure to properly balance the loads for the maximum operation of the dampers as the cause of the incident. Other contributing causes include: (1) faulty wiring on the igniter and (2) the permissive between two breakers did not operate properly. EPA also finds that, according to Paragraph 22(C)(i)(a)(2), the incident resulted from Tesoro's failure to operate and maintain the equipment in a manner consistent with good engineering practice. EPA notes that several items in the corrective action list should have been addressed by Tesoro before the July 12, 2004 incident occurred. In addition, EPA finds that the incident resulted from training deficiencies as discussed in Paragraph 22(C)(i)(a)(4). Therefore, in accord with Paragraph 47, EPA assesses a penalty in the amount of \$750 (\$500 per ton * 1.5 tons) for the July 12, 2004 acid gas flaring incident.

Tesoro also reported that additional flaring occurred later in the day when acid gas was routed from the Claus unit to the flare for about two minutes. This flaring, by itself, did not emit enough SO₂ emissions to meet the definition of an acid gas flaring incident, but Tesoro included the emissions in the total amount of the day's exceedance. According to Tesoro, the flaring resulted from an improperly set alarm for the steam drum on the acid gas furnace/waster heat boiler. The set point for the alarm was not revised when its corresponding transmitter's ranged was reset earlier in the year. Tesoro adjusted the actuation point on the alarm to prevent this from occurring again.

According to our records, this is the eighth flaring incident at the Mandan Refinery since the lodging of the Consent Decree, and the fifth in the last twelve months. Therefore, the penalty

provisions of Paragraph 47 do not apply as stipulated in Paragraph 22(C)(i)(b)(2). Should you have any questions or if you wish to discuss this matter, please contact Mr. Scott Whitmore at (303) 312-6317 or Mr. Patric McCoy at (312) 886-6869

Sincerely,

Adam M. Kushner
Acting Director
Air Enforcement Division
Office of Civil Enforcement

cc (electronically): Alan R. Anderson, Mandan Refinery
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